
**AN ASSESSMENT OF THE HEALTH CARE NEEDS OF PEOPLE
AGED 65 YEARS AND OLDER IN HOMES FOR THE AGED IN
JOHANNESBURG**

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A research report submitted to the faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of Masters in Family Medicine

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DECLARATION

I, Dafni Zisis declare that this research report is my own work. It is being submitted for the Degree of Masters in Family Medicine in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other University.

This study has received ethical approval from the University of the Witwatersrand's committee for Research on Human Subjects. The approval number is M091103.

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April 2013

DEDICATION

This is dedicated to my Mother.

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ABSTRACT

Aim

The purpose of this study was to explore the met and unmet needs of persons aged 65 years and older in three different homes for the aged in Johannesburg.

Objectives

- 1) To assess the demographic features of the subjects, their current medical conditions, whether there is any disease prevention and whether the person has a carer or is a carer.
- 2) To assess met and unmet needs of subjects in the following categories:
 - a) Physical needs
 - b) Environmental needs
 - c) Psychological/mental needs
 - d) Social needs
 - e) Disability needs
- 3) To identify the levels of dependency and compare these amongst the different living environments in the homes.

Methods

This was a cross sectional quantitative study that used the Mini-Cog assessment tool to assess cognitive impairment and a researcher-administered questionnaire, the CANE (Camberwell Assessment of Need for the Elderly) to explore needs. Letters were sent to the residents of the facilities inviting them to participate in the questionnaire. Data was collected

in August 2010 from Pioneer House (which was also the pilot study) in order to analyse the data and assess ease of use, and then Queen Alexandra Village of the same month. Due to a small sample size, further residents were recruited from Fairland Village in March 2012. The data from all three facilities was incorporated in the analysis to increase the sample size and as there were no changes in the questionnaire, the methodology or the analysis, the pilot study was included. All three residential facilities are from Johannesburg. Statistical analysis was done using STATISTICA and Epi-Info Version 3.5.1 (2008).

Results

In total, there were 49 residents in whom assessments were completed. Of the participants, 34 (69.4%) were female. All were of white ethnicity (only one African resident was interviewed but was excluded due to exclusion criteria as she was less than 65 years of age and had lived in the facility less than one month). Forty-two (85.71%) residents were Christian. All residents spoke English with 38 (77.55%) having English as a first language. Thirty-six (73.47%) were widowed. One (2.04%) of the residents was single (never married), 9 (18.36%) were married living with their spouses and 13 (6.12%) were divorced. Thirty-nine (79.59%) of the participants lived outside of frail care and 46 (93.88%) had previous formal employment.

The mean age of the participants was 81.49 years (range 67-99; SD 7.14) with a mean length of stay of 49.50 months (range 1-168 months; SD 43.59). The mean number of current medical conditions was 2.59 (ranging from 0-5; SD 1.15) with the mean number of medications taken daily being 2.79 (ranging from 0-9 different medications every day; SD 2.10). The total number of identified needs for all residents in the sample size across all three facilities, which includes met and unmet needs, as determined by the CANE assessment in this study was 264. Of these, 253 (95.83%) were met needs and 11 (4.17%) were unmet needs. The average number of total needs identified (met and unmet) for all residents was 5.36 (SD = 3.94). The average number of met needs was 5.14 (SD = 3.66) and the average number of unmet needs expressed by the residents was 0.14 (SD = 0.35). Living in frail care has greater odds of not having unmet needs (OR = 1.6). However, the association between the unmet needs and the living environment cannot be statistically demonstrated due to the small sample size.

Needs were further categorised into the following groups: physical, environmental, psychological, disability and social. Environmental needs sub-categorised into “accommodation”, “food”, “money/budgeting”, “benefits” and “caring for someone else” demonstrated the highest number of met needs of which the total was 105 (41.50%). Four (36.36%) unmet needs were identified under the environmental sub-category. The physical needs category was identified as the second highest in terms of met needs and includes the sub-categories of “physical health”, “continence”, “eyesight/hearing”, “self-care” and “drugs”. The total identified needs here were 93 (36.76%). No unmet needs were identified under the physical needs category. In the psychological needs category, which includes the sub-categories of “memory”, “inadvertent self-harm”, “psychological distress” and “psychotic symptoms”, no needs were identified. Only one (9.09%) unmet need was identified under the sub-category of “psychological distress”. In the social needs category, which includes the sub-categories of “intimate relationships”, “company”, “abuse/neglect”, “daytime activities” and “information”, no needs were identified for “abuse or neglect”. Met needs in this social needs category accounted for 18 (7.11%) of the total needs met. Six (54.54%) unmet needs accounted for the social needs category ranking first in terms of unmet needs identified. Twenty-five (9.88%) met needs were identified in the disability category, which has “mobility/falls” as a sub-category. There were no unmet needs identified under the disability category.

Frail care residents on average had 7 needs identified per resident as opposed to the residential care residents, who on average had 4.69 needs identified per resident. This was expected, as frail care residents traditionally have greater needs, hence their placement in frail care, and are more reliant on other people.

There are two different levels of dependency amongst the residents living in the different living environments (frail versus residential care) that are explored by the CANE assessment. The levels of dependency described by the CANE are formal help (help that residents receive from family and/or friends) and informal help (help that residents receive from the facilities where the residents reside). The stated total level of informal help received from family and/or friends had a mean score of 5.14 (SD = 6.32). The total level of formal help received largely from the facilities had a mean score of 8.06 (SD = 8.99). This shows that most of the participants were receiving help from the facilities, including assistance with food, looking after the home, mobility and daytime activities. The families largely attributed

by visiting occasionally and assisting with household chores or transport and by providing financial assistance if necessary.

Using the CANE assessment questions, the researcher rating of all the questions was the same as the residents and therefore no difference was detected using chi-squared tests between participants and the researcher.

Conclusion

Needs were identified for almost all participants but few had needs that were not met. Increasing age was not associated with increasing numbers of unmet needs ($p=0.742$). There was no association between living in different environments and unmet needs ($p=0.804$). There was no association between sex of the resident and current medical conditions ($p=0.558$).

Overall, few unmet needs were identified and most needs were met, but due to the small sample size, where non-parametrical statistical analysis was performed, and due to the fact that these are facilities for the aged, this cannot be interpreted as a true reflection of all homes for the aged. Further studies looking into the aged at primary care levels in both private and public health care facilities would be able to provide South Africa with a better estimate of the needs of the elderly. Important to note is that the number of specialists training in geriatrics is a lot less than other developed countries so the care of the geriatric person lies predominantly at a primary health care level. With an improved infrastructure, better resources and with the proper training of health care professionals, unmet needs can be defined and interventions put in place, which may lead to an improvement in the overall health care that the aged receive.

ABBREVIATIONS

CAN	Camberwell Assessment of Need
CANE	Camberwell Assessment of Need for the Elderly
CGA	Comprehensive Geriatric Assessment
MMSE	Mini-Mental State Examination
NHS	National Health Services
OR	Odds Ratio
SD	Standard Deviation
WITS	University of the Witwatersrand

APPENDICES

APPENDIX A

Letters requesting permission to proceed with study from facility managers

APPENDIX B

Permission letters from facility managers to proceed with research

APPENDIX C

Letters distributed to the residents requesting participation in the study

APPENDIX D

The Mini-Cog Assessment Tool

APPENDIX E

Informed consent form

APPENDIX F

Demographics questionnaire

APPENDIX G

CANE Assessment Tool

APPENDIX H

CANE Assessment Summary Sheet

APPENDIX I

Clearance certificate from University of the Witwatersrand's committee for Research on Human Subjects

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND

The World Health Organisation defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity¹”. Hence, a comprehensive assessment would involve all of the above.

Exploring the health care needs of the aged is important in any society. Developed countries are having a growth in the numbers of people aged 65 years and older^{2, 3, 4, 5, 6}. Not much research delving into these matters has been done in developing worlds. Recent statistics done in South Africa shows that the life expectancy at birth for 2011 is estimated at 54.9 years for males and 59.1 years for females⁷. This is largely attributed to infectious diseases such as HIV having an impact⁷. Although this demonstrates the differences between developed and developing countries in terms of ageing, the needs of this age group still needs addressing as this will hopefully result in improved health care for this vulnerable population group.

Health care workers are faced with multiple challenges when it comes to the elderly and these are not necessarily all disease related. Social needs differ amongst different population groups⁸ and health care workers need to be aware of these. Poverty also affects the aged and their level of well-being⁹. Having guidelines or a standardised approach to exploring the health care needs has provided this population group with improved health care outcomes^{10, 11, 12, 13} in developed countries. It is not always effective as certain older people tolerate their unmet needs and may not mention them in an assessment¹⁴. Certain assessments of the elderly are comprehensive in that they are able to measure the met and unmet physical, mental and social needs in this population group and thus lead to overall improvement in their care as well as assistance for their health care providers and carers, such as the Camberwell Assessment of Need for the Elderly (CANE)¹⁵.

Many of the studies have been carried out in developed countries with very little available from developing countries. Assessing the needs of people aged 65 years and older in a South African setting will allow one to ascertain whether their needs in this country are being met and perhaps allow for an improved way of assessing and dealing with their needs in a previously very rarely explored group when it comes to research.

The elderly who reside in facilities that care for the aged may also have different needs to the elderly living with relatives, for example, or even on their own. Having a tool such as the CANE assessment that can be used in facilities that care for the elderly or in primary care settings may facilitate better outcomes for these persons if indeed such needs exist.

As to determining the best way to assess the health care needs of the elderly, one has to explore the reason for encounter^{16,17} and the available resources. The reason for encounter¹⁶ may or may not differ between the private health care sector and the public health care setting but exploring this may help distribute resources and address the differing health care needs. Assessing the unannounced needs in this population group by means of a multi-team assessment may be more difficult to achieve in a developing country due to limited resources. A multi-team assessment may include a home visit¹⁸, and with the help of other health care professionals such as nurses, occupational therapists (which may assist with activities of daily living), social workers (who may assist with pensions and accommodation) and family or caregivers if available, may result in improved outcome. A multidisciplinary approach to the care of any group of persons and specifically the aged with their differing health care needs is the ultimate goal.

1.2 MOTIVATION

The researcher feels that the elderly are a vulnerable group in our society whose needs are often not met, hence the reason for wanting to do this study. A universal assessment tool called the CANE has therefore been chosen by the researcher to assess the needs of the elderly. There are many different assessment tools that have been developed internationally for the assessment of the needs of the elderly, but the CANE tool was found by the researcher to be comprehensive, applicable and easy to use. Where there is need for a

more targeted assessment, the user, which in this case is the residents, will be referred to whatever available appropriate service is available.

Identification of the needs of the elderly will hopefully result in a standardised screening tool for this population group in South Africa and then depending on the outcomes, there may be new protocols put in place to provide total, multidisciplinary care and overall improvement in the health care they receive.

1.3 AIM AND OBJECTIVES

1.3.1 AIM

The aim of this study is to identify the met and unmet needs of persons older than 65 years of age in three different facilities that care for the aged.

1.3.2 OBJECTIVES

- 1) To assess the demographic features of the subjects including age, gender, ethnicity, religion, first language, marital status (single, married, divorce/separated, widowed), living situation (alone, with partner, with others), education in years and previous occupation. Current medical conditions, disease prevention, whether the person has a carer or is a carer.
- 2) To assess met and unmet needs of subjects in the following categories, using the CANE assessment tool:
 - a) Physical needs including “physical health”, “continence”, “eyesight/hearing/communication”, “self-care”, “drugs”
 - b) Environmental needs including “accommodation”, “looking after the home”, “food”, “money”, “benefits”, “caring for someone”

- c) Psychological/mental needs including “memory”, “inadvertent self-harm”, “deliberate self-harm”, “psychological distress”, “psychotic symptoms”, “behaviour”, “alcohol”
 - d) Social needs including “company”, “intimate relationships”, “daytime activities”, “information”, “abuse/neglect”
 - e) Disability needs which includes “mobility/falls”
- 3) To identify the levels of dependency and compare these amongst the different living environments.

CHAPTER 2: LITERATURE REVIEW

2.1 THE ELDERLY

In 2011, the percentage of the South African population aged greater than 65 years of age was 2.53 million (5.02%). Of those, 63.26% were African, 8.09% Coloured, 3.48% Indian/Asian and 25.16% were White⁷. In the United Kingdom, the estimated number of persons over 65 years of age is 16% of the population³, which is approximately three times higher than South Africa, and this number is increasing in developed countries due to various reasons. Some of this may be attributed to advances in medical technology, improved living conditions, improved nutrition, better access to social grants and support⁴ and thus an increase in life expectancy at birth. In Australia, the proportion of the population aged 65 years and older in 1996 was 12%, and this is expected to increase to 15.9% in 2016⁵. This implies that additional health and social services will be required. Developed countries such as the United Kingdom, other European countries, North America, Japan and Australia seems to have been addressing this issue for some time in the form of research done in assessing health care needs of the elderly.

Not much research delving into these matters has been done in developing worlds and this may be further affected by the recent statistics done in South Africa, which shows the life expectancy at birth for 2011 to be less than 60 years of age⁷. These most recent statistics may further influence the redistribution of resources concerning funds for the elderly. In addition, developing countries are faced with the overwhelming burden of infectious diseases, which places strain on available resources for the aged.

As numerous researches overseas have shown, not all health care needs in this population group are met. The reasons for this are numerous¹⁹ and may include poor training of health care professionals caring for the elderly²⁰, lack of responsibility from the community and inadequate social interventions in the form of sustainable pension funds, which also applies to South Africa²¹. South Africa though is unique in sub-Saharan Africa in that they do make provisions for the elderly in terms of social grants⁹, even though they may be considered unsustainable. In addition, there are limited facilities for the elderly and limited academic

development in the discipline. There is also occasional unnecessary institutionalisation of the elderly, which may lead to deterioration¹⁹.

There have been few studies done in South Africa looking at the needs of the elderly. The ones done during the apartheid era in South Africa were based more on the institutional care of the aged, which may have been in keeping with European trends at that period¹⁹. The studies showed discrimination concerning the number of homes available at the time with greater numbers available for white people²¹. There was also discrimination about pension funds and how those who were classified as non-white received less pension money even though they were the poorest to start with. Before the passing of the Older Persons Act by parliament in 2006, a study was carried out in South Africa by the South African Medical Research Council²². This study showed that there is no data determining the needs of the older persons in South Africa. It also showed that non-communicable diseases are a large burden amongst older persons and that comprehensive health care is necessary for managing these conditions. Living conditions were also shown to be worse for older Africans in the Eastern Cape, Limpopo and Kwazulu-Natal. The Older Persons Act emphasises access to community based care and support services within a supportive environment, the regulation of residential facilities for older people, and protection against abuse, ill treatment and neglect²³. This has been a positive step forward in terms of caring for the elderly. The impact of the new Act is yet to be fully realised.

Various methods have been explored to ascertain the perceived needs in the elderly, and the research has been predominantly done in the United Kingdom in multiple studies done by the same authors with a special interest in the health care of the elderly^{6,10,11,12,13}. Resources in the developed countries where most of the research has been done have been allocated by local health authorities. The proper management and distribution of funds for research in the elderly may result in better outcomes in terms of anticipating potential health hazards. The quality of the research methodology is generally applicable to any health care setting where there is an older population group. Duplicating or being able to reproduce and assess the health care needs using these research tools has been proven not to be a difficult task and has been replicated on a smaller scale in developed countries²⁴.

There is no one fixed solution in terms of ascertaining the health care needs of the elderly and exploring these needs in a South African setting may add a different perspective. The Camberwell Assessment of Need for the Elderly (CANE) is a tool that was developed which explores the views of patients, carers and health professionals allowing a comparison¹² between the groups. This was adapted from the Camberwell Assessment of Need (CAN)¹⁵ used with adults with chronic mental illness, hence its intended inclusion as a tool in this study. Having ascertained the needs of the elderly in this study and whether or not their needs are met, systems may then be able to be put in place where care for the elderly with a multi-disciplinary team could be implemented²⁵.

There is however some research that has shown that a multidimensional assessment offered almost no differences in patient outcome²⁶. This was a cluster-randomised factorial trial in England where eligible patients aged 75 years and older from 106 practices underwent a multidimensional assessment followed by a nurse-led in-depth assessment in the universal group, whereas the second group, which was the targeted group, only had an in-depth assessment if a problem presented itself in the initial assessment. The end points of the study were reached if there was mortality, admission into hospitals/institutions and quality of life. There was a three years follow up during which significant improvements in quality of life resulted after the universal versus targeted approach in terms of homecare, management by the geriatric team, mobility, social interaction and morale, but the multidimensional assessment showed almost no difference in patient outcome itself.

2.2 THE CAMBERWELL ASSESSMENT OF NEED FOR THE ELDERLY (CANE)

The CANE tool was developed and specifically designed to measure the numerous needs of people over the age of 65. The CANE, which is one of a series of needs assessment tools, has been based on the structural model of the CAN¹⁵ that was originally developed for use in psychiatry for the aged. This was then adapted as a comprehensive assessment of the elderly.

The CANE has been widely used in Europe, New Zealand, Australia, Canada and the USA. The evaluation of the CANE has shown it to be a reliable tool in being able to provide a comprehensive assessment of needs for older people^{15, 27} and by identifying unmet needs interventions may be put in place. It may be used by a wide range of health care professionals on a wide range of populations and settings¹² and has been shown not to be difficult to interpret²⁷.

In long-term facilities such as a home for the aged, the CANE is best used for residents who have been there at least for one month as time gives them a better opportunity to become accustomed to their new environment²⁷.

The CANE has also been demonstrated to be a useful tool in primary health care⁶. Illness and disability are often undetected in the elderly in primary health care²⁰. The CANE used in primary health care has been shown to be a useful screening test in terms of detecting unmet needs. A shorter version of the CANE has been developed for use in primary health care and is currently being researched. It is for this reason that the longer version of the CANE was chosen to be used as the measuring tool for the needs of people over 65 years of age in this study, and the results perhaps addressed to improve the outcome of elderly people who have unmet needs.

2.2.1 APPLICATION OF THE CANE ASSESSMENT

CANE is a questionnaire intended on forming the basis of a complete clinical assessment of need which when looking at the person over 65 years of age (known as the user for the purposes of the CANE), broadly looks at social circumstances such as accommodation, relationship and monetary issues, medical conditions including eyesight, memory and drugs of the person. These are all very important concerning the health care of an aged person and thus need to be included in some way when assessing the patient. They are all interdependent²⁷.

Each item in the research version of the CANE has 5 sections:

- Section 1 aims to assess whether there is currently a need in the specific area and this is defined by the CANE as a problem with a potential remedy or worthwhile intervention. There are prompts in italics below each area on the record forms (Appendix G) to help the researcher determine whether the user (resident) has a current need in the specific area. The CANE allows the researcher to probe further to determine if a need exists. The CANE is intended as a framework to be used by persons with clinical expertise in the area covered but the manual allows for training of other health care professionals to be able to use it. The question may then be rated. Ratings for each topic are: no need (scored as 0), met/partially met need (scored as 1), unmet need (scored as 2), not known (scored as 9). An unmet need can be for a type of care or intervention or for assessment. If for any question the rating is 1 or 2, then the questioning will proceed onto sections 2 – 4. If the rating is 0 or 9, sections 2 – 4 are not completed and the questioning moves onto the next topic. There are 24 topics in total.
- Section 2 addresses assistance from informal sources during the past month such as family, friends or neighbours. The examples on the assessment form are used to prompt the residents. Scores are given as follows: a score of 1 is given when assistance is given infrequently or occasionally, a score of 2 is used when assistance is given more frequently. A score of 3 is given when assistance is given daily or intensive such as respite periods. A score of 4 is given when assistance is very intensive or daily, where family lives with the user. A score of 9 is given if the interviewee is uncertain of the level of help provided.
- Section 3 is divided into 2 parts. Part 1 asks whether the user receives any help from local services to help with the problem. These formal supports include residential care. This section is again scored. A score of 1 is for minimal support/occasional/minimal support. A score of 2 is for more regular assistance such as weekly or more support when necessary. A score of 3 is for specialist assistance or more frequent assistance. A score of 9 is for the user who is uncertain on the level of assistance provided. Part 2 asks about what formal support the user requires, using the same scale as in part 1.
- Section 4 is also divided into 2 parts. Part 1 asks whether the user is receiving the right type of help with the problem. Part 2 asks about the user's satisfaction with the assistance they are receiving.

- Section 5 is for notes on the problem and the details of the help/services the user receives and requires. (Appendix G of the CANE assessment).

As part of the CANE assessment, the carer is also assessed. The carer by definition of the CANE assessment is the individual who usually provides care on at least a weekly basis. This person is usually unpaid for their work but may be remunerated by the elderly person (which is the user) or the family of the elderly person. The carer in the CANE is also looked at concerning psychological distress and the need for more information.

The staff that cares for the elderly may also be assessed using the CANE assessment tool. The CANE defines staff as a formal carer who is familiar with the individual's clinical condition. There is normally more than one staff member caring for an individual.

The rater by definition of the CANE is the mental health professional or other health care professional conducting the assessment and the clinician is encouraged to use all available information to rate areas on the CANE. For the purposes of this study, the terms of rater and researcher are used interchangeably.

Identifying and assessing the needs of the elderly through a structured questionnaire with simple questions does not have to become a difficult process. Instead, this may be seen as a tool for primary prevention and adequate utilisation of available resources. The questionnaire would be able to be administered by any primary health care professional²⁷ and perhaps this could be duplicated and a copy kept with the elderly patient so that for example, in a public health care setting, information would be available to treating personnel and repetition avoided. In a private health care setting, the general practitioner can also perform a modified assessment and refer appropriately but at the same time, act as liaison for the care of the patient²⁸. Perhaps having dedicated teams looking after the aged at our South African facilities, such as the established paediatric departments, may result in improved overall health care and less overall burden on the system. Certain medical tertiary institutions in South Africa's public health care sector have such dedicated departments of geriatrics²², for example, in the Universitas Hospital in the Free State, where the researcher

was employed in 2002. Other institutions in South Africa are trying to implement this. Budget restraints may influence the introduction of dedicated geriatric departments²².

2.2.2 SCORING OF THE CANE ASSESSMENT

Scoring for the CANE assessment is noted in the CANE manual as a secondary aspect, as the primary purpose of the CANE is to identify and assess individual unmet needs. The total CANE score is based on the rating of section 1 of each of the 24 topics or problem areas. The total number of met needs are counted (rated as a 1 in Section 1), out of a maximum of 24. The total numbers of unmet needs are counted (rated as a 2 in Section 1), out of a maximum of 24. The total number of needs identified (rated as a 1 or a 2 in Section 1) are also counted out of a maximum of 24. The rater's (researcher or clinician's) ratings are made based on all the information gathered through the assessment. Rater's ratings of section 1 are used as the basis for total CANE scores. Appendix H, which is the summary assessment sheet, demonstrates how the CANE is scored.

2.2.3 DEFINING NEED ACCORDING TO THE CANE

The CANE defines a "need" as "A situation in which there is a significant problem, for which there is an appropriate intervention that could potentially help or alleviate the problem²⁷".

The CANE assessment has defined the needs of persons over 65 as "no need", "met need" and "unmet need".

- NO NEED as defined by the CANE for the purpose of assessment is for the user who is coping well independently.
- A MET NEED is defined as a problem that is receiving intervention.
- An UNMET NEED is a significant problem that is considered to require an intervention.

2.2.4 RELIABILITY AND VALIDITY OF THE CANE

The psychometric properties of the CANE were assessed in six centres over the world of which four took place in the UK, one each in the USA and Sweden¹⁵. CANE was shown to provide a comprehensive assessment of needs for older people¹⁵. It was easily translated to different languages when necessary and was well understood²⁷.

2.3 OTHER NEEDS ASSESSMENT TOOLS

The Comprehensive Geriatric Assessment (CGA) was developed as an interdisciplinary approach identifying and finding ways of addressing the multiple problems of elderly people. A study showed that using a simple CGA as a tool to screen elderly urban people who are well may identify frailty and older people who are more likely to benefit from a more comprehensive assessment²⁹. The CGA has benefitted the elderly in terms of mortality and hospital admissions through numerous studies²⁵. A meta-analysis performed showed these findings to be significant for any ageing population. Implementing a basic assessment in a private or a state health care setting may lead to identifying the elderly at risk and then a multidisciplinary team could be incorporated which would be able to assist the more vulnerable of the elderly.

A second study¹⁰ in the United Kingdom involved sending out a questionnaire called the Sherbrooke instrument and patients achieving a score of 4, 5 or 6 positive answers were invited for further assessment. This implied that there were health care needs that were unmet. This study was performed as part of an existing primary care service in order to determine the resources necessary to carry out a single assessment process in primary care. This is feasible in a country such as the United Kingdom where every patient in a specific coverage area is registered with a GP practice, his or her postal address is known and where there is one official language. In a South African setting, especially in a government setting where people may not even have a postal address and there is more than one spoken official language, this method would not be feasible. The questionnaire could in theory be administered by staff at clinics and responders with scores of 4, 5 or 6 then brought back for further assessment. This would require further work force and resources in an already burdened developing world health care setting. This could only be

used as a screening tool for the time being as there are few dedicated resources to geriatrics. One explanation for the few dedicated resources could be due to the overwhelming burden of infectious diseases. Identifying unmet needs in the elderly though may allow for the placement of greater resources into geriatric care.

2.4 ASSESSING COGNITIVE FUNCTION

Assessing cognitive function would obviously be useful prior to administering a needs assessment. There are tools that have been developed which are available for ascertaining the cognitive functioning of individuals. The Mini-Mental Status Examination (MMSE) or Folstein test³⁰, which is one such tool, comprises a 30-point questionnaire test, which has commonly been used to screen for dementia. It was also originally widely distributed free, but current versions are now protected.

The Mini-Cog (Appendix D) is another such tool that has been developed to simplify the identification of cognitive impairment and has been shown to be both effective and reliable³¹. It has three components: the ability of the participant to repeat three words (apple, watch and coin were used), the ability to recall these items and the ability to draw the time (as represented on a clock) on a blank circle. Being able to recall the three objects does not require one to proceed to the clock-drawing test. If one does not recall all objects, then the clock-drawing test proceeds. An abnormal clock-drawing test implies cognitive impairment. A score of zero is positive for cognitive impairment and a score of three is negative for cognitive impairment; a score of 1-2 with an abnormal clock-drawing test is also positive for cognitive impairment whereas a score of 1-2 with a normal clock-drawing test is negative for cognitive impairment.

2.5 THE SOUTH AFRICAN SETTING

In South Africa, the Aged Persons Act of 1967³² defines an elderly person as a woman greater than 60 years of age and a man greater than 65 years of age. This is in keeping with the Older Persons Act of 2006 which qualifies women for grants at the age of 60 and men at the age of 65⁸. Different male and female mortality rates (South African women live longer),

and the fact that female-headed households have been shown to be more vulnerable has resulted in women receiving their pensions at 60 years of age and men at 65 years of age. This has allowed pensions to reach more women than men³³.

The Older Persons Act of 2006 also actively promotes community-based care in that the elderly have the right to live in their own home as long as possible⁸. Both Acts also state that the well-being, safety and security of older persons are to be maintained and that residential facilities and support services which are offered are to be monitored^{8, 32}.

There are also National South African Health Guidelines, which specifically look at the prevention of falls in the elderly³⁴, guidelines for the promotion of active ageing in the elderly³⁵ (this looks at levels of activity), guidelines on the prevention, early detection/identification and intervention of physical abuse in the elderly³⁶ and guidelines on osteoporosis³⁷. Some of the CANE questions specifically address abuse, mobility and falls, and disease prevention, which include exercise and mobility.

Unfortunately, the poverty stricken elderly in South Africa do not only have health care needs that are unmet due to lack of infrastructure in terms of accessible health care facilities (especially in rural areas)²², but financially, pension funds are not sufficient to support themselves let alone families^{9,33}, especially as South Africa's largest share of the population is under 15 years of age (31.3%)⁷. There are also high unemployment rates and the estimated HIV prevalence rate is approximately 10.6%⁷. As a result, many households rely upon the pension funds for the elderly, which may adversely worsen outcome for them. Often a lack of transport may also adversely affect the outcome of the elderly especially in rural areas³⁸. They may also not be physically able to climb into a taxi or a bus and public transport services may not always be available where they reside.

Dissatisfaction with existing health services for the elderly in South Africa is also not really known. The little research that has been done demonstrates complaints about inefficient appointment systems, long waiting times, and shortages of medication, lack of explanation on health problems by health care professionals and lack of respect²².

2.6 SUMMARY OF LITERATURE REVIEW

Most research into the health care needs of the elderly has been carried out in developed countries with few in developing countries like South Africa^{19,21,22}. Health care needs of the elderly may differ slightly between countries but the overall feeling is that their needs are not being met³⁹. This needs further exploration in the South African setting²².

The United Kingdom has a National Health Service (NHS) and a small private sector. Their studies are carried out on patients in the NHS. In South Africa, there is a distinct line between the private and the public health care sector where the quality of care received may differ. Implementing a standardised approach to health care in the elderly across both health care sectors may facilitate improved care for the elderly person. For example, in a public health care setting, the patient may have to see a different practitioner with every visit. This may result in one having to repeat their medical history numerous times. This is time consuming, may be frustrating for the patient and staff members alike, and may result in key issues not being addressed. An older patient may also not remember their medical history due to cognitive impairment. This problem would apply in any setting but perhaps having one physician that the patient sees routinely may alleviate this dilemma. Determining the health care needs of the two groups in a private and public health care setting is also relevant, as one would want to explore if their health care needs differ⁴⁰.

The elderly face many challenges, especially concerning total health care. Their access to health care facilities and their choice of providers is often limited or restricted by many factors including dependency, immobility, financial independence and mental capacity. Thus, it is important to adopt a holistic approach to determine the health care needs of every elderly person using a systematic multi-team approach so that pertinent problems are not missed and that proper care is taken of this vulnerable group. Compassion for this age group shown by all health care professionals may go a long way towards helping aged people live a dignified life. In Scotland, the Scottish expert group on healthcare of older people released a report entitled "Adding Life to Years"²⁸. This captures the entire assessment of the elderly and indeed all ages in one phrase. It promotes individual responsibility for health, promotes primary care, describes the benefits of multidisciplinary teams in the care of the elderly and discourages ageism. The researcher hopes that this is a principle that will also be imparted to this country's entire population and not just for the aged.

CHAPTER 3: METHODOLOGY

3.1 MATERIALS AND METHODS

3.1.1 STUDY DESIGN

This is a cross sectional quantitative study using the Mini-Cog to assess cognitive impairment, followed by a researcher administered questionnaire (CANE), used to determine needs in those who have no cognitive impairment.

3.1.2 STUDY SITE

For the purposes of this study, the questionnaire was carried out on elderly living in an urban setting only. It was felt that it would be easier to assess the needs of people already living in facilities which look after the aged where ease of access for the resident and researcher is not difficult, where a large enough sample size would exist and appointments would be set up to suit the participant.

Three facilities for the aged from Johannesburg, South Africa, were chosen for the research in order to obtain a satisfactory sample:

- Queen Alexandra Village
- Fairland Village
- Pioneer House

3.1.2.1 Queen Alexandra Village

As per the protocol, it was intended to use this site for the whole study. This community centre cares for the elderly and is located in North-Eastern Johannesburg. This private facility is also reimbursed by the state and consists of four different levels:

- A full care level (frail care) unit can accommodate 26 people.
- The Alzheimer's and Related diseases wing accommodates 10 people.
- Bed-sit rooms (single rooms with a basin and shared bathrooms) are for residents able to perform activities of daily living on their own. There are 38 such rooms.
- Another level consists of apartments for ambient/working residents; these are rented out as a source of income for the village and the ages of residents here vary from mid 40's to mid 60's. Some share bathrooms whereas others have their own bathrooms. There are 12 such units in total.

3.1.2.2 Fairland Village

Fairland Village is located in Fairlands, a North-Western suburb of Johannesburg. This private facility consists of 74 accommodation facilities in total. Due the poor response rate at Queen Alexandra Village, it was decided to add a third facility to the study that cares for the aged.

- There are 23 mid-care facilities, which comprise of bed-sit rooms and their own bathrooms. The residents in mid-care have their meals provided for them and have their vital signs routinely checked. They are capable of performing activities of daily living on their own with minimal assistance. Residents often progress from the cottages to mid-care and then frail care. The facility does allow people to come in from external places when there is a need and availability.
- There are 8 beds available in frail care and this comprises 24 hour nursing care where medication is controlled and dispensed by nursing staff. Frail care residents are more reliant on nursing staff for activities of daily living. Persons with dementia are accommodated in this facility.

- The remaining accommodation facilities are the cottages. These may consist of one or two bedrooms including a kitchen. Most residents here provide their own meals and have minimal nursing intervention.
- All of the above facilities are in a secure setting with access to 24-hour assistance if necessary.

3.1.2.3 Pioneer House

Pioneer House was used for the pilot study and due to the small numbers obtained from the other two facilities, this data was included in the final data. This was made possible because there was no alteration to the questions, the methodology did not change, and the method of analysis did not change.

This is a Flower Foundation retirement home located in Oaklands, Highlands North, also in North-Eastern Johannesburg. The Flower Foundation has numerous homes that care for the elderly throughout South Africa.

- Pioneer House has a frail care unit, which consists of 31 beds.
- There is also a mid-care unit, which consists of 41 rooms with their own bathrooms.
- They do not have an Alzheimer's unit in this facility.

3.1.3 STUDY POPULATION

The total population of all the residents living in the three facilities at the time of the research being carried out was 192.

The total number of residents for Queen Alexandra Village at the time that the study was conducted was 54 (the centre can house numbers of up to 80 residents at a time). Nineteen residents were in frail care, 8 residents in the Alzheimer's unit, 20 residents were in bed-sit rooms sharing bathrooms, 4 residents in en-suite rooms and 3 residents in apartments.

Fairland Village at the time of the research had 74 residents living in their facility. There were 8 residents in frail care, 23 in mid-care and the remaining 43 residents resided in the cottages on the premises. The latter are single, married, divorced or widowed.

The total number of residents in Pioneer House at the time of the pilot study was 64. Pioneer House has 31 frail care beds and 41 mid-care beds but at the time, there were 5 available beds in mid-care and 3 available in frail care. (Refer to 3.2 PILOT STUDY)

3.1.4 SAMPLING AND SELECTION PROCESS

This included all residents aged 65 years and older within the study population who met the inclusion and exclusion criteria.

3.1.4.1 Inclusion Criteria

- Residents of the village who were 65 years and older
- Residents living there for at least one month (to enable them to settle in) at the time of the letters having been sent out
- Informed consent
- A negative Mini-Cog test for cognitive impairment (this allowed continuation into the second phase of the assessment, which was the CANE assessment).

3.1.4.2 Exclusion Criteria

- A non-willingness to participate in the questionnaire
- Non-English speaking residents (but did not exclude residents whose first language was not English)
- Age less than 65 years
- Residents living in the village less than one month
- Residents known to have mental impairment through dementia or another condition

- An eligible resident sitting in with the resident being interviewed (at the interviewee's request)
- Acutely ill residents or those who had a positive screen for cognitive impairment using the Mini-Cog test.

In ascertaining the health care needs of elderly people, for the purpose of this study, the age of 65 and older was used in both women and men as this is also the cut-off age used in the CANE. Previous assessments of elderly done in developed countries examined people aged 75 years and older. Assessing people earlier may detect more unmet needs resulting in anticipatory guidance early on, and thus improve outcome.

Of the 54 residents at Queen Alexandra Village, the following residents were excluded:

- 8 were in the Alzheimer's unit,
- 4 refused to participate,
- 1 resident had only been in the facility for a few days,
- 21 residents did not respond.

Thus, the final sample size prior to administration of the Mini-Cog assessment for Queen Alexandra Village was 18. Regretfully, due to the small study sample from Queen Alexandra Village, it was decided to include Fairland Village. This was done with the approval of the Faculty's Post-Graduate Office.

Of the 74 residents of Fairland Village, the following residents were excluded:

- 8 residents were known to have dementia and therefore automatically excluded,
- 3 refused to participate,
- 28 residents did not respond.

Thus, the final sample size for Fairland Village prior to the Mini-Cog assessment was 35.

For Pioneer House, of the 64 residents available, only 5 were obtained for the sample. As this was originally the pilot study, the researcher did not feel it necessary to obtain a larger sample size at the time as this was done to test the research methodology and analysis. The respondents of the pilot were included as there was no alteration to the questions, methodology or analysis of the data. All 5 residents in the pilot qualified according to the criteria.

The final sample size prior to interviews was regrettably therefore 57.

Statisticians were consulted regarding an adequate sample size. They were unable to furnish the researcher with the optimal number due to the multiple variables, but they felt that the 49 achieved were sufficient for analysis using non-parametric testing.

3.1.5 MEASURING TOOLS

Apart from the demographic administered questionnaire (Appendix F), the following measuring instruments were used (Appendices D and G):

3.1.5.1 The Mini-Cog

The Mini-Cog was used for cognitive impairment detection (Appendix D). This assessment took approximately 3 minutes to complete.

After a negative assessment for cognitive impairment, the researcher was able to obtain full informed consent and proceed with the CANE assessment.

3.1.5.2 The CANE Assessment

A researcher-administered questionnaire (Appendix G) based on the CANE assessment of the elderly was used in those who were cognitively competent on the Mini-Cog assessment. The CANE manual was purchased as copyright law protects it²⁷. Purchasing the manual allows free use of its questionnaire and adaptation. The questionnaire was adapted by not using the two columns related to the carer. Instead, only the user (being the resident) and rater (being the researcher) columns were completed. The information obtained was entered into the CANE assessment sheet (Appendix H).

For the purposes of this research, the carer was not assessed since the sites used had staff that cared for the residents and some residents did not require a carer. While input from a carer may be important for some residents, this was not the aim of this study.

3.2 PILOT STUDY

A pilot study was performed to assess the ease of use of the instruments, the data collection and ability to analyse the data. This was performed on 5 residents at Pioneer House in the first week of August 2010, and their data has been included in the study for analysis in order to increase the sample size as mentioned above.

It was ascertained in the pilot study that people were reluctant to volunteer for a researcher-administered questionnaire even though letters were distributed requesting and explaining the purpose of the research. The reasons for this are not clear. Following the lack of response, the matron discussed the proposed research with the residents when opportunity arose such as gatherings for meals. In addition, the researcher spoke at these gatherings to encourage participation. During the period when the pilot study was undertaken, there were 28 residents in frail care and 36 residents in mid-care. Five residents volunteered to participate in the research. There were two refusals, where one resident was wary of having to sign consent and a second resident felt that due to her existing medical conditions, it would be too taxing to participate.

Administering the Mini-Cog and CANE assessments to the residents in the pilot study did not present any problems to the researcher or the participants. The residents easily understood questions and the total amount of time, including informed consent and demographic data collection, averaged about 20 minutes per resident per interview.

Medical examination was not performed at any time by the researcher as this was not the purpose of the study and this was explained to the residents. Questions that residents had pertaining to health where formal examination was necessary were referred to their respective practitioners.

3.3 DATA COLLECTION

Following meetings with the different general managers of Pioneer House and Queen Alexandra village, permission in writing was obtained from them in order to proceed with the study (Appendix A). Ethical approval was then obtained for the study to proceed from the University of the Witwatersrand's (WITS) committee for Research on Human Subjects (Appendix I). Letters confirming ethical approval were sent to the respective managers of the homes accompanied with information letters, which were printed for the residents regarding the purpose of the study.

Twenty letters explaining the purpose of the study were then handed out to the residents of Pioneer House and only five eligible residents were recruited. As already mentioned, at the time that the pilot study was being conducted, the researcher felt that 5 candidates were sufficient. Due to the small sample size obtained from Queen Alexandra Village, it was later decided to include the residents of Pioneer House into the data gathered.

In August 2010, following the pilot study, the matron of Queen Alexandra Village distributed letters (Appendix B) amongst the residents living there at the time requesting they volunteer for a researcher-administered questionnaire. Due to the poor response rate following distribution of letters, in order to increase the response rate, the matron made introductions of the researcher at social gathering times such as lunch gatherings. The matron also gave

explanations to the residents informing them of the questionnaire and requesting participation in the assessment in order to increase the response rate. They were also encouraged by the researcher to mention the purpose of the research to their fellow residents. The response rate was further boosted by having residents in frail care introduced to the researcher individually by the matron. Residents known to have dementia or related diseases and acute illnesses were excluded automatically. Oral consent was obtained prior to proceeding with the demographics and Mini-Cog assessment, but only once cognitive assessment was made could full informed consent be obtained as per the protocol. All residents in the home at the time who met the initial inclusion and exclusion criteria and who volunteered to do the assessment subsequently proceeded on to the demographics and the Mini-Cog (Appendix D) to assess cognitive functioning. This was carried out at a time that suited both the participant and the researcher.

Those residents who showed no cognitive impairment then proceeded into the second phase of the research, which was the CANE questionnaire (Appendix G). If residents were found to have cognitive impairment and this was not known, the relevant persons were notified and further questioning with the CANE assessment did not take place because of the validity of the informed consent and validity and reliability of answers to the needs questions. Interviews were confidential and took place in a quiet and private environment that suited the participant. It was permissible for participants completing the interview to have another resident present during the interviews but then these visiting residents were excluded from further participation due to possible bias as they would have prior knowledge of the questions asked and this could possibly influence the answers. Of the 18 residents in the sample size, 4 were excluded following questioning of demographics as they were younger than 65 years of age and a further 2 were found cognitively impaired with the Mini-Cog assessment tool, hence the final sample size for Queen Alexandra Village was 12.

As referred to above, due to the poor response rate from Queen Alexandra Village, it was decided to include a third facility for the purposes of the study following permission from the WITS Post-Graduate Faculty of Health Sciences. Fairland Village was recruited after permission was obtained from the general manager of the facility. Sixty letters, as suggested by the matron, were printed and distributed in the residents' pigeonholes. The letters explained the reason for the interviews and research. The residents were invited to call the researcher to set up an appointment. There was only one response from this and as a result, subsequent assistance was received from the receptionist and Matron where the purpose of the study was explained at opportune times. The receptionist also very kindly set up a

twenty-minute appointment system where residents could then set up appointments with the receptionist for mornings, which accommodated both the researcher and the residents. This method proved to be highly successful in that many residents were recruited from Fairland Village. At Fairland Village, one resident failed the Mini-Cog assessment and therefore did not proceed onto the CANE assessment. The researcher failed to obtain the written consent from another resident after the Mini-Cog assessment and hence this person's data obtained was excluded. This resulted in a sample size of 32 from a possible 35 from which data was analysed.

Printed researcher administered questionnaires consisted of demographics, the Mini-Cog, informed consent and the CANE assessment. Residents' names were only used for the informed consent. For the CANE assessment, the residents' responses were numbered in numerical order in the order that they were interviewed, and hence confidentiality was preserved, especially as informed consent was not kept with the questionnaires. The researcher was able to distinguish the assessments from the different homes as the initials of the homes were used prior to the numbering for each assessment.

3.4 METHODS OF DATA ANALYSIS

Demographic information that was gathered was entered into Microsoft Excel. In addition, the answers from the CANE assessment were summarised onto the CANE assessment summary sheet (Appendix H) and then entered into Microsoft Excel. Data was analysed using STATISTICA statistical package (which was purchased for a nominal fee from the University of the Witwatersrand) and Epi-Info Version 3.5.1 (2008).

Five statisticians within the Faculty of Health Sciences gave conflicting statistical advice during the period of research. Regretfully, there was no continuity between statisticians who were available on a roster basis. Fortunately, Dr Ashwin Kalain, a family physician in the Department of Family Medicine, gave further assistance with statistical analysis and appropriate use of the statistical data obtained.

Data was analysed for frequencies and associations using chi-squared tests. Non-parametric techniques were used in which sample size no longer played a role. Statistical significance at the 5% level was determined using 'p' values, but due to the small sample size, 'p' values become significant, except possibly in the non-parametric analyses.

Items were ranked in order of frequency of unmet needs and then grouped into different subcategories (gender, age groups etc.) to investigate potential differences in highest ranked category items and those that are consistently ranked highest amongst sub-categories.

3.5 ETHICAL ISSUES

Ethical approval for this research was obtained from the committee for Research on Human Subjects, University of the Witwatersrand (Appendix I) and the clearance number is M091103.

Discussions were held with the general managers of the three facilities who were informed of the assessments. Relevant permission letters were obtained (Appendix A) from the facilities. Residents were informed via letters regarding the proposed research closer to the time of the study requesting their participation. In addition, the management staff at each facility spoke to the residents about the research.

Information sheets in the form of letters were distributed to each resident. Oral consent was obtained prior to demographics being obtained and the Mini-Cog assessment performed. Informed consent was attained prior to completion of the CANE assessment. It was stressed to residents that participation was voluntary with no penalties being incurred for non-willingness to participate. There was no pressure placed on residents to proceed with interviews.

Where cognitive impairment was discovered on the Mini-Cog assessment, the relevant persons nominated by the residents, which included family members or staff, were notified

and no further questioning continued. This occurred with four residents in the study including one in the pilot study.

Where the CANE assessment determined an area of need that was not met, consent as to whether the information could be shared was obtained from the resident prior to the information being made available to a nominated party of the resident. This was unnecessary in the study.

Data collected was anonymous for the purposes of interpretation. Although the resident was met by name, all data was anonymous and confidential; no names were used in the data collection sheet, the analysis, or the reports. The only time a resident's name was recorded was for the consent form but these forms were filed and kept separately after data was captured.

The researcher had no relationship with the facilities or the residents at the time of the research.

CHAPTER 4: RESULTS

4.1 RESPONSE RATE

Only 5 (7.69%) out of 64 residents were included from Pioneer House as this was the pilot study. Of the 54 residents from the Queen Alexandra home, 12 (22%) were included into the study. Of the 74 residents at Fairland Village, 32 (44.59%) were included. Hence, 49 residents were included in the analysis.

Table 1 has a list of the excluded categories of residents:

Table 1: Excluded Candidates

		Pioneer House	Queen Alexandra	Fairland Village
1	Under 65 years of age	-	4	-
2	Dementia (Alzheimer's unit)	-	8	8
3	Refusals	2	4	2
4	Mini-cog failed	1	2	1
5	Length of stay < 1 month	-	1	-

Reasons given for non-participation (refusals) were “too ill”, “not interested” and “not wanting to sign any forms”.

4.2 DEMOGRAPHIC DATA

4.2.1 AGE

The mean age of the residents was 81.49 years (range 67- 99; SD 7.14). The median is 83 years of age. (Refer to Figure 1)

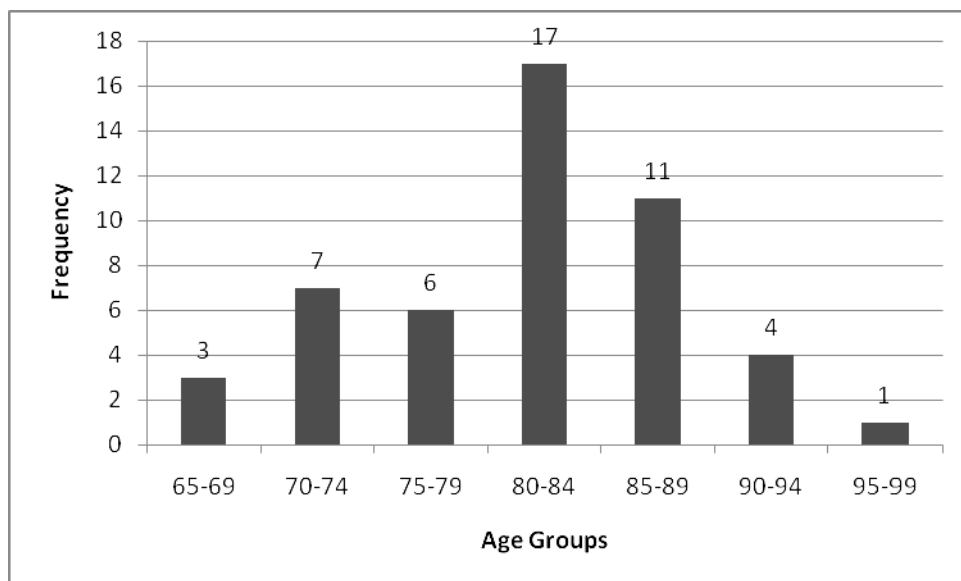


Figure 1: Frequency of Age groups of residents (n=49)

The ages of the patients in frail care were all above 80 years of age. Fifty percent of the residents in frail care were in the age category of 85-89 years of age. This may be expected as the older the person is, the more assistance they may require.

Thirteen (33.33%) of the residents residing in residential care fell under the age category of 80-85, 16 (41.02%) were between the ages of 65-79 and 10 (25.64%) were older than 85 years of age.

4.2.2 GENDER

Thirty-four (69.39%) of the residents were female and 15(30.61%) were male. For a correlation between age groups and gender, refer to Figure 2.

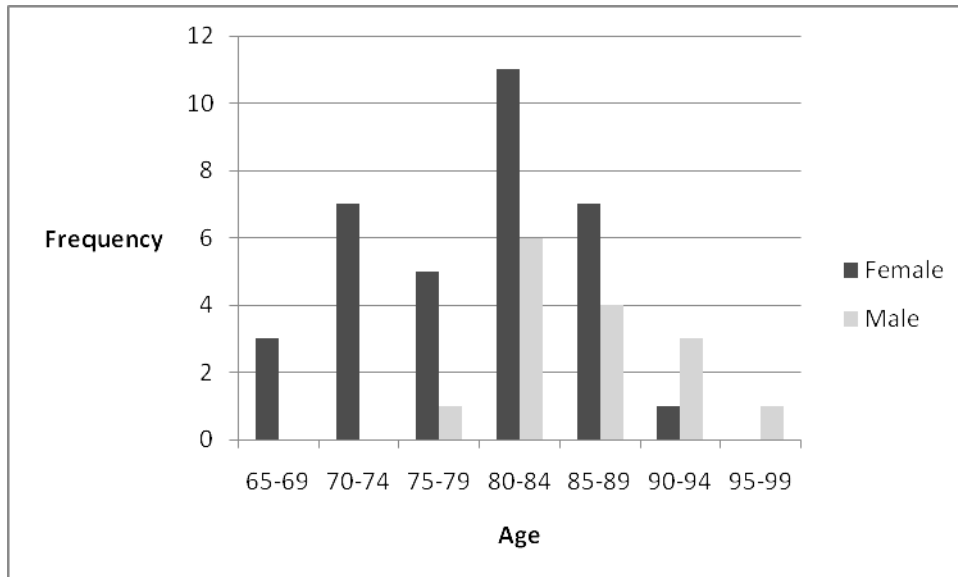


Figure 2: Comparison between Age Groups and Gender (n=49)

4.2.3 ETHNICITY

All of the participants who proceeded to the CANE assessment were white. There was only one black female resident in the frail care unit at Queen Alexandra Village but she was not eligible to proceed to the CANE assessment due to her being younger than 65 years of age and also living in the home less than one month.

4.2.4 RELIGION

Forty-two (85.71%) of the participants were Christian, 3 (6.12%) were Jewish and 4 (8.16%) persons did not nominate themselves to a particular religion.

4.2.5 DURATION OF STAY

The mean length of stay was 49.50 months (range 1 - 168 months; SD 43.59) with a median of 35 months.

4.2.6 LANGUAGE

All of the residents in the study spoke fluent English. Thirty-eight (77.55%) had English as a first language. Eleven (22.44%) did not have English as a first language but there were no problems encountered concerning communication.

4.2.7 MARITAL STATUS

One (2.04%) of the participants was single (never married), 9 (18.37%) were married to partners living in the homes, 3 (6.12%) were divorced and 36 (73.47 %) were widowed.

4.2.8 LIVING SITUATION

Of the 49 residents, 35 (71.43%) lived on their own. Of the 9 married couples, 2 of the partners were in frail care and 7 (14.29%) lived with their partner. Seven (14.29%) residents shared accommodation in frail care.

Thirty-nine residents (79.59%) lived independently with no need for twenty-four hour attention and 10 (20.41%) lived in frail care.

4.2.9 PREVIOUS OCCUPATION

Forty-six (93.88%) of the participants had prior formal employment. Three (6.12%) were home executives. Their formal employment ranged from being self-employed to banking, working in the post office, office work, teachers, accountants, engineers, nursing and even a pilot in the air force. The majority, 17 (34.69%) were involved in office work. There were 5 (10.20%) involved in education, 5 (10.20%) were working in a technical environment, 5 (10.20%) had worked in a nursing environment and 5 (10.20%) were self-employed.

4.2.9.1 EDUCATION

The mean length of education was 13 years (8 – 19, SD 2.61) with a median of 12. Ten (20.41%) of the residents did not complete formal education. Twenty (40.82%) of the residents had some form of tertiary education.

4.2.9.2 CURRENT MEDICAL CONDITIONS

The mean number of current medically diagnosed conditions was 2.59 (ranging from 0-5; SD 1.15). (Refer to Figure 3). These ranged from cardiovascular conditions (hypertension, ischaemic heart disease, hyperlipidaemia, cerebrovascular accidents) of which 35 (71.43%) residents had one or more of the cardiovascular conditions. Seven (14.29%) participants had endocrine medical conditions (this included diabetes and hypothyroidism). Four (8.16%) residents had respiratory diseases such as asthma and chronic obstructive pulmonary disease. Four (8.16%) had cancer, 23 (46.93%) had musculoskeletal conditions (including osteoarthritis, rheumatoid arthritis, osteoporosis and skeletal fractures) of which 5 (10.02%) residents had recent fractures. Twenty-six (53.06%) residents had other medical conditions including ophthalmological pathology, connective tissue diseases, renal diseases, psychiatric conditions and haematological conditions. One (2.04%) resident had no medically diagnosed conditions, 8 (16.33%) had one medical condition and 40 (81.63%) had more than one medical condition.

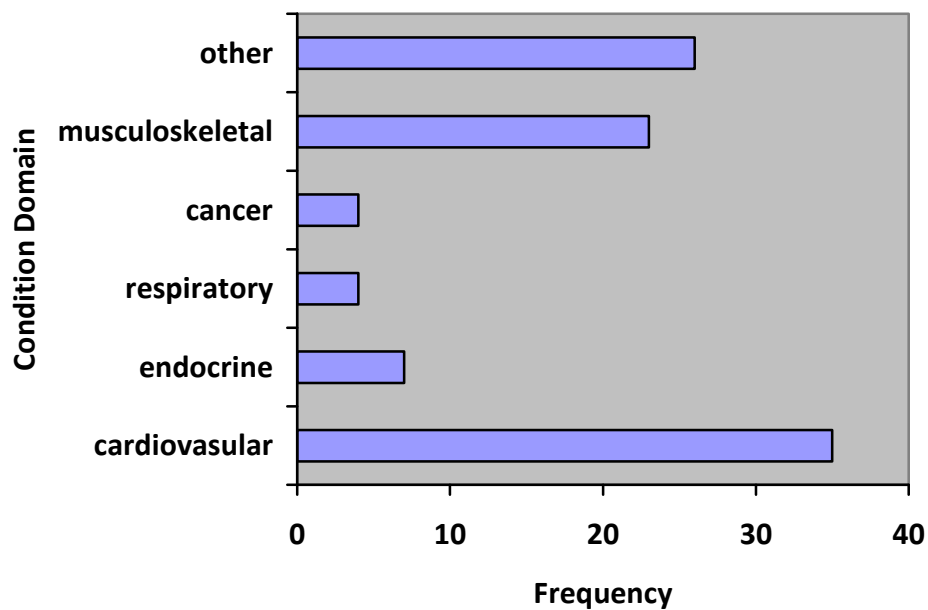


Figure 3: Frequency of Condition Domains amongst the residents from all three facilities (n = 49)

4.2.9.3 CURRENT MEDICATION

The mean number of medications taken daily was 2.79 (ranging from 0-9 different medications every day; SD 2.10). This included multivitamins in addition to disease modifying treatment.

4.2.9.4 DISEASE MODIFICATION AND PREVENTION

As part of disease modification and prevention, some residents walked daily, some exercised and others had their blood pressure and glucose levels monitored by the facilities or their health care practitioners. More intensive monitoring of existing medical conditions and vital signs was performed for residents in frail care. Only three (6.12%) of the residents stated that they did not have any formal preventative or disease modification strategies.

4.2.9.5 DOES THE PERSON HAVE A CARER FOR DAILY LIVING?

Twelve (24.49%) of the residents stated that they needed a person to assist with activities of daily living, such as grooming, dressing, feeding and mobility. Five (41.67%) of these twelve residents resided in frail care. Some of the residents in frail care felt they were still able to care for their own needs such as self-grooming and personal hygiene. All ten patients in frail care had their medication monitored and administered, vital signs measured and food prepared. Food is provided for all the residents across all three facilities regardless of living in frail care or not, and is optional for those not living in frail care. Assistance with housekeeping and laundry is also provided by the facilities to all residents.

In total then, 32 (65.31%) of the residents stated that they did not have a carer. This correlated with the different levels of care offered in the facilities and that frail care necessitated the greater need for a carer.

4.2.9.6 IS THE RESIDENT A CARER?

Two residents (4.08%) responded in the affirmative to this question. One resident stated that his reason for moving into the Queen Alexandra Village was that his wife had Alzheimer's and this was the only facility that he could afford that would take both him and his spouse. He was responsible for paying for both of them to reside in this facility and he visited her daily. He had his own bedroom and she was in the Alzheimer's unit. His age of 85 on its own made him an appropriate resident of this facility. The other affirmative response to being a carer was a wife who assisted with the care of her frail husband. They both lived together in a mid-care facility at Fairland Village. She assisted as much as possible with the care of her husband's needs.

4.3 MINI-COG ASSESSMENT

Of the 49 residents who progressed to the CANE assessment, twenty-two (44.90%) had a perfect recall (3/3) in the Mini-Cog, eleven (22.45%) recalled one of the three items and sixteen (32.65%) recalled two items. Four residents did not proceed onto the CANE assessment due to having cognitive impairment as was detected by the Mini-Cog screening assessment and thus were excluded from the study. They were not included in the demographics nor analysed further.

The only problem encountered with the Mini-Cog was the clock-drawing test for those who were visually impaired. The same problem would have been encountered if the MMSE was used, as there is also a section that involves drawing. The researcher dealt with this problem by asking the two residents who had poor vision to “draw” the clock in the air.

4.4 ASSESSMENT OF NEEDS FROM THE CANE ASSESSMENT

4.4.1 AVERAGE NEEDS

To reiterate, a “met need” as defined by the CANE, is a current problem that is receiving intervention. An “unmet need” as defined by the CANE, is where a significant problem is present which requires intervention.

The total number of identified needs for all residents in the sample size across all three facilities, which includes met and unmet needs, as determined by the CANE assessment in this study was 264. Of these, 253 (95.83%) were met needs and 11 (4.17%) were unmet needs. The average number of total needs identified (met and unmet) for all residents was 5.36 (SD = 3.94). The average number of met needs was 5.14 (SD = 3.66) and the average number of unmet needs as expressed by the residents was 0.14 (SD = 0.35). Living in frail care has greater odds of not having unmet needs (OR = 1.6). However, the association

between the unmet needs and the living environment cannot be statistically demonstrated due to the small sample size.

4.4.2 THE NEEDS AS DEFINED BY THE CANE AND CORRELATION WITH THE DIFFERENT LIVING ENVIRONMENTS

Table 2: Frequency (%) of residents with identified needs which have been met or unmet in frail care (FC) and residential care (RC) settings

CANE areas of need	Met needs		Unmet needs	
	RC n=39	FC n=10	RC n=39	FC n=10
PHYSICAL				
Continence	13 (33.3%)	1 (10%)	0 (0%)	0 (0%)
Eyesight/hearing	10 (25.6%)	2 (20%)	0 (0%)	0 (0%)
Physical health	32 (82.1%)	9 (90%)	0 (0%)	0 (0%)
Drugs	5 (12.8%)	6 (60%)	0 (0%)	0 (0%)
Self care	9 (23.1%)	6 (60%)	0 (0%)	0 (0%)
Subtotal	69	24	0	0
PSYCHOLOGICAL/MENTAL				
Inadvertent self harm	4 (10.3%)	0 (0%)	0 (0%)	0 (0%)
Psychological distress	4 (10.3%)	1 (10%)	1 (2.6%)	0 (0%)
Psychotic symptoms	1(2.6%)	0 (0%)	0 (0%)	0 (0%)
Subtotal	9	1	1	0
DISABILITY				
Mobility/falls	18 (46.2%)	7 (70%)	0 (0%)	0 (0%)
Subtotal	18	7	0	0
ENVIRONMENTAL				
Accommodation	14 (35.9%)	7 (70%)	1 (2.6%)	1 (8%)
Looking after home	15 (38.5%)	8 (80%)	0 (0%)	0 (0%)
Food	19 (48.7%)	10 (100%)	0 (0%)	0 (0%)
Caring for someone else	2 (5.13%)	1 (10%)	0 (0%)	0 (0%)
Money/budgeting	17 (43.6%)	7 (70%)	1 (2.6%)	0 (0%)
Benefits	4 (10.3%)	1 (10%)	1 (2.6%)	0 (0%)
Subtotal	71	34	3	1
SOCIAL				
Daytime activities	9 (23.1%)	4 (40%)	2 (5.1%)	0 (0%)
Information	3 (7.7%)	0 (0%)	1 (2.6%)	1 (10%)
Company	3 (7.7%)	0 (0%)	1 (2.6%)	1 (10%)
Intimate relationships	1 (2.6%)	0 (0%)	0 (0%)	0 (0%)
Subtotal	16	4	4	2
TOTAL	183	70	8	3

Table 2 demonstrates the individual needs identified by the CANE. Note that needs identified for “alcohol”, “memory”, “psychotic disturbances”, “abuse” and “disturbing behaviour to others” were not included in the table as no needs were identified here for neither the frail care nor the residential care groups. Needs were identified for all the remaining categories and demonstrated in the table.

In the physical needs category, met needs were identified for the sub-categories of “physical health”, “continence”, “eyesight/hearing”, “self-care” and “drugs”. There were no unmet needs identified in either levels of care in the three homes for this category. Met needs in this category accounted for 93 (36.76%) of the total met needs. This places the physical needs category second after environmental needs for met needs identified.

In the environmental needs category, which includes the sub-categories of “accommodation”, “food”, “money/budgeting”, “benefits” and “caring for someone else”, all needs were met with regards to “food”, “looking after the home” and “caring for someone else”. Unmet needs were identified for “money/budgeting”, “benefits” and “accommodation”. The environmental needs category identified the highest number of met needs, which were 105 (41.50%). Four (36.36%) unmet needs were identified in this category.

In the psychological/mental needs category, which includes the sub-categories of “memory”, “inadvertent self-harm”, “psychological distress” and “psychotic symptoms”, no needs were identified. The lack of needs related to “memory loss” was to be expected as initial screening with the Mini-Cog assessment tool had already excluded those residents with cognitive impairment. In addition, no unmet needs were identified for “intimate relationships”. There were no residents who had “inadvertently or deliberately harmed” themselves, and none who confessed to having “psychotic symptoms”. Only one resident stated that he had “psychological distress” which was unmet, meaning that the distress significantly affected his life and for which he had not as yet received assistance.

In the social needs category, which includes the sub-categories of “intimate relationships”, “company”, “abuse/neglect”, “daytime activities” and “information”, no needs were identified for “abuse or neglect”. Met needs were identified for the sub-categories of “company”,

“intimate relationships”, “daytime activities” and “information”, accounting in total to 18 (7.11%). The social needs category identified 6 out of the total of 11 unmet needs (54.54%) as was demonstrated in the sub-categories of “company”, “information” and “daytime activities”.

There were no unmet needs identified in the disability category which included “mobility and/or falls” but there were 25 (9.88%) met needs that were identified in terms of assistance with mobility in the form of wheelchairs, walkers and transport to various places as was needed by the residents.

Frail care residents on average had 7 needs identified per resident as opposed to the residential care residents, who on average had 4.69 needs identified per resident. This was expected, as frail care residents are traditionally more reliant on other people. There were 3 (30%) unmet needs identified in the frail care group and of those, 2 (20%) were from the social needs category, followed by 1(10%) from the environmental needs category.

4.5 THE LEVELS OF DEPENDENCY AND COMPARISON AMONGST THE DIFFERENT LIVING ENVIRONMENTS IN THE HOMES

There are two levels of dependency as explored by the CANE and these are:

- Informal help – this looks at how much help the residents are receiving from relatives and/or friends for a particular problem
- Formal help – this looks at how much help the residents are receiving from the homes for a particular problem (this is also further clarified into how much help is needed from the homes for a particular problem)

The CANE further looks at whether the help that is received from either family/friends or the home is the right type of help for a particular problem.

The stated total level of informal help received from family and/or friends had a mean score of 5.14 (SD = 6.32). The total level of formal help received largely from the facilities had a mean score of 8.06 (SD = 8.99). Using non-parametric statistical analysis, the Mann-Whitney U Test showed significant relationships for the total level of formal help ($p=0.002$) versus living environment, which demonstrates that residents in frail care were more reliant on the facilities for their help. There was no significant relationship demonstrated for informal help received and the different living environments. In addition, the total level of help needed increased for residents residing in frail care ($p=0.003$), as would be expected. The right type of help that was required for the different living environments was perceived by the residents to be appropriate ($p=0.025$).

Table 3: The levels of help needed and the level of satisfaction as determined by the user (n = 49)

	Minimum Score	Maximum Score	Mean Score	Std. Deviation
Total level of informal help	0	31	5.14	6.32
Total level of formal help	0	31	8.06	8.99
Total level of help needed	0	34	8.39	9.58
Total level of right type of help	0	14	5.14	3.84
Total level of satisfaction	0	14	5.14	3.83

No associations were made between the age of the patient and levels of help needed.

Table 4: The needs as compared between rater and user (n = 49)

	Minimum Score	Maximum Score	Mean Score	Std. Deviation
User met needs	0	13	5.14	3.66
Rater met needs	0	13	5.16	3.67
User unmet needs	0	3	0.22	0.62
Rater unmet needs	0	3	0.20	0.61
User total needs	0	14	5.37	3.94
Rater total needs	4	14	5.37	3.94

Table 4 demonstrates needs as defined by the rater (researcher) and user (resident), the total levels of help needed and received, and the user satisfaction. The total level of help

needed as assessed by the rater had a mean score of 8.39 (SD = 9.58), and the total level of help that the residents were receiving had a mean score of 5.14 (SD = 3.84).

The total level of satisfaction for existing needs by the residents had a mean score of 5.14 (SD = 3.83), which is shown in Table 4 and is comparable to the needs which are met as described by the residents which shows a mean score of 5.14 (SD = 3.66).

CHAPTER 5: DISCUSSION

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5.1 PHYSICAL NEEDS

This category was the second ranked in terms of needs identified overall. This includes the sub-categories of “physical health”, “continence”, “eyesight/hearing”, “self-care” and “drugs”. The residents did not identify unmet needs for the physical needs category, since they all had access to health care and assistance if needed. Access to medication and taking medication was not shown to be a problem. Staff controlled all the medication in the frail care units, but residents outside of frail care capable of self-medicating dispensed their own medication. Self-care was also not seen as a concern amongst the residents, where most residents, even those in frail care, felt capable of taking care of themselves in terms of washing themselves and being able to dress themselves. In comparing these results to studies in the United Kingdom for residents in continuing care settings⁴¹, they had unmet needs identified for “physical health”, “continence” and “eyesight/hearing”. “Continence” had the highest identified unmet needs. They had no unmet needs identified for “self-care” or “drugs”. In a study where the elderly lived in sheltered housing (defined as self-contained flats, bungalows, or bed-sitters), which in this study was the residential care group, unmet needs were identified under all the physical needs sub-categories⁴² with “eyesight/hearing” having the greatest number of unmet needs. In this study, the residential care residents were quite self-reliant. When their health deteriorated and where more intensive intervention was required, they were relocated to mid-care or frail-care settings.

5.2 ENVIRONMENTAL NEEDS

This category accounted for the highest numbers of met needs identified for both residential and frail care residents in the sub-categories of “accommodation”, “food”, “money/budgeting”, “benefits” and “caring for someone else”. Concerning the sub-categories of “money/budgeting” and “social-grant benefits” that residents were entitled to, some had assistance from relatives, some were self-reliant and others relied on state pension funds to assist with living. Few (4.1%) had unmet needs with “money/budgeting” and “benefits”. By comparing the unmet needs of this category to the met needs, few were not met. All residents had access to food, provided from either the facilities or themselves or relatives. All

residents had assistance with caring for their living environment. Accommodation was suitable for nearly all residents. This implies that most residents had access to a suitable living environment where they had access to food and where they were able to take care of their living environment with assistance if necessary. Comparing this to studies carried out in the United Kingdom, for the residents in sheltered housing⁴², fewer unmet needs were identified under the environmental needs category whereas the residents in the continuing care setting⁴¹, no unmet needs were identified here, unlike the residents of this study where unmet needs were identified for “money/budgeting” and “benefits”. This may be attributed to the different socio-economic environments that are represented.

5.3 PSYCHOLOGICAL NEEDS

In the psychological/mental needs category, which includes the sub-categories of “memory”, “inadvertent self-harm”, “psychological distress” and “psychotic symptoms”, there were no problems identified with “alcohol” or “memory” (this was excluded in the sample selection by the Mini-Cog assessment). No residents admitted to “deliberate self-harm”, and no residents felt that their “behaviour was threatening or a nuisance” to anyone else. “Psychological distress” and “inadvertent self-harm” were identified by the residents and dealt with themselves, and were thus not classified as an unmet need. “Psychological distress” was evident in both of the groups but only one resident who was not in frail care displayed an unmet need here. Overall, the residents in both levels of care seemed to cope well psychologically. Again, in comparison to the studies in the United Kingdom, the residents in the sheltered housing⁴² identified unmet needs for “psychological distress”, “memory” (residents with cognitive impairment were not excluded in these studies), “alcohol” and “deliberate self-harm”. The residents in continuing care settings⁴¹ also had unmet needs identified for “psychological distress”, “memory” and “inadvertent self-harm”. The results of this study are similar to those in the continuing care setting results in the United Kingdom.

5.4 SOCIAL NEEDS

The social needs category which includes the sub-categories of “daytime activities”, “information”, “company” and “intimate relationships” identified 6 out of the total of 11 unmet needs (54.54%), and thus accounted for the highest unmet needs category. Lack of “company” was identified in both the residential and frail care groups. No residents felt “abused” or “neglected”. Social needs as a group ranked fourth in terms of met needs in the 5 categories (18, 7.11%). In comparing these results to the continuing care setting results in the United Kingdom, the social needs category also identified many unmet needs here but “memory” accounted for the highest unmet needs identified⁴¹. In sheltered housing studies in the United Kingdom, unmet needs for social needs also ranked second behind physical needs⁴². This suggests that social needs are largely unmet amongst the elderly and perhaps more can be done towards alleviating this problem.

5.5 DISABILITY NEEDS

The disabilities category, which includes “Mobility/Falls” as a sub-category, was the third highest ranked category concerning identified needs. All needs for mobility were met in that residents needing assistance with mobility were assisted, including those with a history of falls. Transport was also arranged at all facilities for those wanting to go to local off-site amenities. Residents in the studies in the United Kingdom in the sheltered housing⁴² had high numbers of unmet needs for this category, and this corresponded with the residents in the continuing care settings⁴¹ where unmet needs were also identified here. This implies that the elderly in these settings do not feel as if they are appropriately assisted with mobility when there is a need. This is different to the residents interviewed for the purpose of this research as no unmet needs were identified here.

5.6 NEEDS RANKED

The top 5 of the 24 sub-categories of met needs have been ranked in frequency from highest to lowest for both the residential and frail care groups and the results are as follows:

1. "Physical Health" (16.21%)
2. "Food" (11.46%)
3. "Mobility/falls" (9.88%)
4. "Money/budgeting" (9.49%)
5. "Looking after the home" (9.09%)

The highest number of unmet needs identified under the sub-categories were for "Daytime activities", "accommodation", "information" and "company" each with 18.18%, followed by "Psychological distress", "money/budgeting" and "benefits" with 9.09%.

There was no association between the unmet needs defined and demographic features such as age, gender, marital status or education.

Living in a frail care environment would normally indicate the need for a carer, however only fifty percent of the frail care residents described themselves as needing a carer.

5.7 THE LEVELS OF DEPENDENCY AND COMPARISON AMONGST THE DIFFERENT LIVING ENVIRONMENTS IN THE HOMES

Residents living in frail care were more reliant on the facilities for assistance with medication, mobility, food and taking care of themselves. This is to be expected as living in a frail care environment implies that the elderly living here are "frail" and as such in need of more attention. This is comparative to a study in England⁴¹ where individuals who require more interventions are found in nursing care homes where higher levels of qualified staff are found.

Most of the residents were receiving help from the facilities, including assistance with food, looking after the home, mobility and daytime activities. The families largely attributed by

visiting occasionally and assisting with household chores or transport and by providing financial assistance. This differs to a study in England⁴² where more than half of the residents in sheltered housing were receiving help from families, as opposed to this study which showed that residents in residential care were largely self reliant.

The residents also largely felt that they were receiving the right type of help that was warranted for their situation. Few residents were unhappy with their living environments and the help received. The researcher found this to be more prevalent in the elderly resident who was financially less secure and as such did not always have an option as to their living environment.

5.8 LIMITATIONS OF THE STUDY

Despite the intention of the study to include 192 participants, there was regrettably a low response rate. It was thus not possible to obtain statistically significant differences between variables. This was also made more difficult by the conflicting statistical advice on sample size and forms of analysis received before and after the study by the statistical support staff provided by the Faculty of Health Sciences.

This is a biased sample in that it is not a true representation of the aged in South Africa. All the participants were all of white ethnic origin. Nearly all had family support in the form of informal help. Even though the Queen Alexandra Village does receive a Government subsidy, residents still require certain funds in order to be able to afford to stay here and as such, this facility is not accessible to everyone. The poorer elderly resident and previously disadvantaged in terms of race has not been represented in this study.

Possible bias may also exist where residents underestimate their needs through possible fear of reprisal within their facilities of residence. This was not perceived by the researcher to be a problem with this study and the issues of confidentiality and anonymity were stressed to all participants.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS

The CANE assessment is a very user friendly tool that may be used to assess the needs of the elderly, not only in residential facilities that care for the aged but also as a tool to be used by primary health care practitioners and specialists in identifying the needs of this vulnerable population group. Their needs are ever changing so the researcher does not believe that it is a static tool but rather one that should be used periodically to reassess the needs, especially in those whose medical conditions change and in those where there was a previously unmet need.

The residents who were excluded for having known cognitive impairment or through the initial Mini-Cog assessment probably have multiple needs and will need to have their needs explored. The CANE tool is capable of assessing the needs of the cognitively impaired but the carer's involvement in providing information would be a prerequisite.

Even though the sample size was small, the overall impression that this research has shown is that the elderly are happy with safe facilities that are able to provide them with shelter, food and assistance with activities of daily living where required. Recent loss of a loved one was what seemed to result in many ending up in these facilities. Lack of mobility was another reason for them having to reside in such facilities and this normally came about because of having falls resulting in fractures of the lower limbs, in their previous living environment.

Multimorbidity is also a common finding amongst the elderly, as was identified in this study. Studies have shown that multimorbidity ranges from 40-56% in populations aged 65 years and older⁴³. Multimorbidity may also be difficult for an elderly person to have to deal with on their own, hence having informal help from relatives or from residential facilities almost seems a prerequisite to getting older.

The researcher found the residents to be very pleasant during the questioning. Initially, the residents were found by the researcher to be a little wary concerning the research, but as the interview progressed, the researcher found the residents to be quite communicable. The impression perceived by the researcher was one of where the residents did not like to be a burden to their families or the facility.

The facilities used in the study were found by the researcher to be acceptable in terms of number of needs met and the people that worked there were all friendly and easily accessible. Meeting the needs of all the residents in the facilities may be idealistic but incorporating the CANE or similar assessment tools for the caring of the aged may result in increasing numbers of needs being met.

Residents in homes for the aged in South Africa are a non-representative sample of the elderly, as it comprises a minority of the aged population.

6.2 RECOMMENDATIONS OF THE STUDY

Care facilities that care for the elderly should invest in the CANE assessment, as the researcher believes this tool to be user and rater friendly and may well result in the improvement of meeting the needs of this group. It also looks at the carer and staff, and thus can result in the holistic management of not only the aged but also of persons who have a role to play in the wellbeing of the aged. The CANE assessment has been well validated internationally in care facilities that care for the aged²⁷. It may also be used as a tool by the health care practitioners who visit these homes so that needs may be identified.

Studies are currently underway overseas for a shortened version of the CANE to be used in primary health care. This could then be applied to rural settings and results compared to non-rural settings as concerning health care needs.

Research should be done in a developing country such as South Africa, not only to assess the needs of communities but also for international comparative purposes. The challenges

faced in implementing a modified CANE assessment tool in a South African setting would probably include those of translation, as there are 11 official languages and not everybody speaks English. Secondly, the time necessary for obtaining consent and administering the questionnaire may limit its use in busy facilities. Fatigue demonstrated by the user, rater or carer might also hamper implementing a tool of this nature. Private patients that visit private health care practitioners and geriatricians also need to be assessed as they have different socio-economic backgrounds, and their data is needed in order to obtain a true representative sample.

The question has been asked whether aging is a prerogative of the more affluent and privileged⁹. This seems to be the case in developing countries, especially with limited resources. It is also important to remember that perhaps the unmet needs of the person may not necessarily be discussed¹⁴ with the researcher or health care practitioner due to various reasons and thus information may be missed.

6.3 RECOMMENDATIONS FOR FURTHER RESEARCH

A shorter version of the CANE is being tested internationally for validity and reliability in primary health care⁴⁴. This could then be used at all primary health care levels including general practitioners in private, and thus assess the true status of the elderly in South Africa.

The CANE assessment tool should also be assessed and tailored for use in developing countries where needs may differ.

The CANE assessment could be a valuable tool in assessing the needs of people with dementia in South Africa. However, it would necessitate greater involvement of carers' and staff due to the dependency of these individuals.

There is also a need for research on the carers as they are often forgotten or neglected when accompanying an older person. Consequences for the aged where carers and staff members are not coping may indirectly result in diminished care or deterioration in health

and offered assistance would then become necessary. Alternatively, the caregiver may be delivering incorrect care to the older person and appropriate knowledge through education would allow for improved outcome.

The aged are an important asset to any society and even though a minority of persons reach this age in South Africa (according to the recent statistics), it is important that we research their needs and attempt to help the existing aged so that steps put in place today will allow for a better outcome for all tomorrow.

REFERENCES:

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- ¹ WHO definition of Health. Available: <http://www.who.int/about/definition/en/print.html> [Accessed 27.06.2012].
- ² World Resources Institute. Population, Health and Human Well Being-South Africa. Earth Trends 2003. Available: <http://earthtrends.wri.org>. [Accessed 16.10.2007].
- ³ UK National Statistics. National Statistics online. Available: <http://www.statistics.gov.uk>. [Accessed 22.10.2007].
- ⁴ Soldo BJ, Agree EM. America's elderly. Popul Bull 1988; 43(3):1-53.
- ⁵ Grey LC, Newbury JW. Health assessment of elderly patients. Australian Family Physician 2004; 33:795-797.
- ⁶ Iliffe S, Haines A, Gallivan S, Booroff A, Goldberg E, Morgan P. Assessment of elderly people in general practice. 2. Functional abilities and medical problems. Br J Gen Pract 1991; 41:13-15.
- ⁷ Statistics South Africa. Available: <http://www.statsa.gov.za/publications/P0302/P03022011.pdf> [Accessed 07.06.2012].
- ⁸ Bohman D. Elderly South Africans' in transition – the daily life circumstances, beliefs concerning health and illness and the influences on caring and family structure. Available: <http://diss.klb.ki.se/2008/978-91-7409-187-8/thesis.pdf> [Accessed 05.06.2012].
- ⁹ Heslop A, Gorman M. Chronic Poverty and Older people in the Developing World. Available: http://www.chronicpoverty.org/uploads/publication_files/WP10_Heslop_Gorman.pdf [Accessed 05.06.2012].
- ¹⁰ Iliffe S, Lenihan P, Orrell M, Walters K, Drennan V, See Tai S et al. The development of a short instrument to identify common unmet needs in older people in general practice. Br J Gen Pract 2004; 54:914-918.
- ¹¹ Roberts HC, Hemsley ZM, Thomas G, Meakins P, Powell J et al. Nurse-led implementation of the single assessment process in primary care: a descriptive feasibility study. Age and Ageing 2006; 35:394-398.
- ¹² Walters K, Iliffe S, See Tai S, Orrell M. Assessing needs from patient, carer and professional perspectives: the Camberwell assessment of Need for Elderly people in primary care. Age and Ageing 2000; 29:505-510.
- ¹³ Stuck AE, Siu AL, Wieland D. Comprehensive Geriatric Assessment: a meta-analysis of controlled trials. Lancet 1993; 342:1032-1036.
- ¹⁴ Smith F, Orrell M. Does the patient-centred approach help identify the needs of older people attending primary care? Age and Ageing 2007; 36(6):628-631.
- ¹⁵ Reynolds T, Thornicroft G, Abas M, Woods B, Hoe J, Leese M et al. Camberwell Assessment of Need for the Elderly (CANE) Development, validity and reliability. Br J of Psych 2000; 176:444-452.
- ¹⁶ Campbell SM, Roland MO. Why do people consult the doctor? Family Practice 1996; 13:75-83.
- ¹⁷ Walters K, Iliffe S, Orrell M. An exploration of help-seeking behaviour in older people with unmet needs. Family Practice 2001; 18:277-282.

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- ¹⁸ Illife S, Haines A, Gallivan S, Booroff A, Goldenberg E, Morgan P. Assessment of elderly people in general practice. 1. Social circumstances and mental state. *Br J Gen Pract* 1991; 41:9-12.
- ¹⁹ Tibbit LR. An evaluation of institutional care of the aged in South Africa. *SAMJ* 1983; 64:241-245.
- ²⁰ Steinweg, K. Embracing the ecology of geriatrics to improve family medicine education. *Fam Med* 2008; 40(10):715-720.
- ²¹ Meiring P de V. Statutory controls in the care of the aged. *SAMJ* 1983; 63:448-451.
- ²² Joubert J, Bradshaw D. Health of Older Persons. Available: http://www.hst.org.za/uploads/files/chap11_03.pdf [Accessed 16.08.2012].
- ²³ Marais S, Eigelaar-Meets I. The Social Wellbeing of Older Persons in the Western Cape: An Overview. Available: <http://www.saopf.org.za/policies/DR%20report.pdf> [Accessed 05.06.2012].
- ²⁴ Royal College of Psychiatrists. Orrell M, Hancock G.(Eds) CANE: Camberwell Assessment of Need for the Elderly. Gaskell.2004.
- ²⁵ Stuck AE, Siu AL, Wieland D. Comprehensive Geriatric Assessment: a meta-analysis of controlled trials. *Lancet* 1993; 342:1032-1036.
- ²⁶ Fletcher AE, Price GM, Ng ES, Stirling SL, Bulpitt CJ et al. Population-based multidimensional assessment of older people in UK general practice: a cluster randomised factorial trial. *Lancet* 2004; 364(9446):1667-1677.
- ²⁷ Orrel M, Hancock G, editors. CANE: Camberwell Assessment of Need for the Elderly. London: Gaskell; 2004.
- ²⁸ Rochon PA, Bronskill SE, Gurwitz JH. Health care for older people. Scottish report has international relevance. *BMJ* 2002; 324:1231-1232.
- ²⁹ Maly RC, Hirsch SH, Reuben DB. Preliminary report. The performance of simple instruments in detecting geriatric conditions and selecting community-dwelling older people for geriatric assessment. *Age and Ageing* 1997; 26:223-231.
- ³⁰ Folstein MF, Folstein SE, McHugh P. "Mini-mental state". A practical method for grading the cognitive state of patients for the clinician. *Journal of psychiatric research* 1975; 12(3):189-198.
- ³¹ Doerflinger,MDC. The mini-cog. *AJN* 2007; 107(12):62-71.
- ³² Government Gazette, Republic of South Africa. Aged Persons Act 1967. Available: <http://www.welfare.gov.za/Legislation/legal.htm> [Accessed 28.10.2008].
- ³³ Buns J, Keswell M, Leibbrandt M. Social Assisitance, Gender and the Aged in South Africa. Available: [http://www.commerce.uct.ac.za/economics/staff/jburns/pensions_femecon\(final\)-copyedit.pdf](http://www.commerce.uct.ac.za/economics/staff/jburns/pensions_femecon(final)-copyedit.pdf) [Accessed 28.06.2012].
- ³⁴ National Guideline on Prevention of Falls of Older Persons. Available: <http://www.westerncape.gov.za/Text/2003/falls.pdf> [Accessed 17.07.2012].
- ³⁵ Guideline for the Promotion of Active Ageing in Older Adults at Primary Level. Available: <http://www.westerncape.gov.za/Text/2003/ageing.pdf> [Accessed 17.07.2012].
- ³⁶ National Guideline on Prevention, Early Detection/Identification and Intervention of Physical Abuse of Older Persons at Primary Care Level. Available: <http://sgdatabse.unwomen.org/uploads/National%20guideline%20on%20of%20physical%20abuse%20of%20elderly%20persons.pdf> [Accessed 17.07.2012].

-
- ³⁷ Hough S, Ascott-Evans B, Brown S, Cassim B, De Villiers T et al. NOFSA Guideline for the Diagnosis and Management of Osteoporosis. Available: <http://www.osteoporosis.org.za/downloads/NOFSAguide.pdf> [Accessed 17.07.2012].
- ³⁸ Rural Transport Strategy for South Africa: Part 2. Available: <http://www.info.gov.za/view/DownloadFileAction?id=88670> [Accessed 04.08.2012].
- ³⁹ Brown K, Boot D, Groom L, Williams EI. Problems found in the over 75s by the annual health check. *Br J Gen Pract* 1997; 47:31-35.
- ⁴⁰ Campbell SM, Roland MO. Why do people consult the doctor? *Family Practice* 1996; 13:75-83.
- ⁴¹ Martin MD, Hancock G, Richardson B, Simmons P, Katona C, Orrell M. Needs in continuing care settings. In: Orrell M, Hancock G, editors. *CANE: Camberwell Assessment of Need for the Elderly*. London: Gaskell; 2004. p. 45-53.
- ⁴² Field E, Walker M, Orrell M. The needs of older people living in sheltered housing. In: Orrell M, Hancock G, editors. *CANE: Camberwell Assessment of Need for the Elderly*. London: Gaskell; 2004. p. 35-44.
- ⁴³ Hunger M, Thorand B, Schunk M, Doring A, Menn P et al. Multimorbidity and health-related quality of life in the older population: results from the German KORA-Age study. *Health and Quality of Life Outcomes* 2011; 9:53. Available: <http://www.hqlo.com/content/9/1/53> [Accessed 19.07.2012].
- ⁴⁴ Walters K, Iliffe S. The CANE in primary care settings: its feasibility and utility as a research and clinical tool. In: Orrell M, Hancock G, editors. *CANE: Camberwell Assessment of Need for the Elderly*. London: Gaskell; 2004. p. 12-20.